CAREX RICHARDSONII IN NEW ENGLAND

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One of the rarest or most evasive of Carices of eastern North America is *Carex Richardsonii* R. Br. Its stations across the breadth of western Canada and northwestern United States are very scattered; and in the region from Illinois eastward its known stations can easily be counted on the fingers. In Illinois the famous station was that of *Dr. S. B. Mead*, who collected it at Augusta on May 26, 1845. Material from Augusta was freely distributed by Mead to students of his time and in the Gray Herbarium this collection is represented by specimens which were sent to Asa Gray, to Chester Dewey, to H. P. Sartwell, to George Vasey and to George Thurber. Except for this much duplicated collection there is no material in the Gray Herbarium from Illinois. Similarly with Indiana: material from a single station (the only one cited by Stanley Coulter) "dry sands, Pine, Lake Co. . . . May 29, 1900," collected by *E. J. Hill* and by *Agnes Chase*. Michigan is represented by two collections: Washington, June 4, 1854, *Dr. D. Cooley;* and south of Brighton, June 25, 1898, *C. F. Wheeler*, "only spec. seen." Beal cites a total of four stations for Michigan, with the comment, "Scarce" but Farwell (Am. Midl. Nat. xi. 49) adds another "for this rare sedge . . . , on sandy hillsides . . . June 1st." In Ohio it is "rare" at its single station, in Erie County.

In the state of New York, likewise, it is not only a very rare, but perhaps an extinct species. Sometime prior to 1848 Dr. Samuel B. Bradley collected very characteristic *Carex Richardsonii* in Monroe County. The material he sent to Chester Dewey (now in the Gray Herbarium) was marked by Dewey "Greece, 10 miles w. of Rochester. *Dr. Bradley*"; but a duplicate (also in Gray Herb.) sent to John Carey is marked in Carey's hand "near Rochester, N. Y. *Dewey!* in lit. 15 Feby. '48." Wherefore, the species was inserted by Carey, in his treatment of *Carex* in Gray, Man. ed. 2: 526 (1856), from "Dry ground, near Rochester, New York (*Dewey*)"; and by Dewey, in his treatment of the genus in Wood, Class-Book, issue of 1861: 765 (1861), from "Woods, Greece, N. Y. (Bradley)." In the succeeding long period since Bradley's discovery of *C. Richardsonii* it has not again been found in New York state; and subsequent statements all affirm that Bradley got it in Parma, not in Greece: "Dry woods, Parma,

Monroe county, north side of the ridge, *Bradley*. Discovered in this locality long before the expedition to British America, *Dewey*";[1] "Rare. Dry woods, Parma, *Bradley*";[2] "In dry soil. The only record for this state rests upon a collection made at Parma, Monroe county, many years ago by *Bradley* (Paine, Cat. . . .). Not recently collected. The specimen from Bradley in state herbarium is labelled 'Greece, Monroe county.'"[3]

Bradley (1796–1880) was a contemporary and friend of Paine; consequently, the hint given by Paine, "north side of the ridge," Parma, may prove of significance in relocating Bradley's station. If, however, Dewey's statement, quoted by Paine, is correct, that the plant was "Discovered in this locality long before the expedition to British America," the date of Bradley's discovery goes back of 1820. Richardson, on Franklin's first journey, collected *Carex Richardsonii* apparently in June, 1820, and it was described in 1823. It is strange, if Dewey's statement is correct, that Bradley, a friend and correspondent of most of the leading botanists of his time, did not send them material soon enough for inclusion in Torrey's *Flora of New York* (1843), nor in Dewey's treatment of *Carex* in Wood's Class-Book (1845), nor in Carey's treatment of the genus in the first edition of Gray's Manual (1848). Dr. Gray's annotated copy of the latter book has the New York occurrence pencilled on the margin of the page, as an addition after the Manual had been prefaced "December 24th, 1847."

With *Carex Richardsonii* so obviously rare in the eastern United States and never found east of northwestern New York, New England botanists have scarcely thought of it as a possible member of their flora. Its discovery in Vermont, associated with some very distinctive and localized plants now indicates that it may be looked for with some confidence elsewhere in the East.

For some years my annual spring field-trip of "Botany 7" has included a small area on the northeastern slope of Mt. Equinox in Manchester, Vermont. With limited time and with confidence in the thorough scouring of the state by ever alert Vermonters and desirous of seeing merely a typical representation of the rich Alleghanian flora of the lower calcareous slope, our ascent has always

[1] Paine, Cat. Pl. Oneida Co. and Vic. 161 (1865).
[2] Beckwith & Macauley, Proc. Rochester Acad. Sci. iii. 121 (1896).
[3] House, Ann. List Ferns and Fl. Pl. N. Y.—N. Y. State Mus. Bull. no. 254: 177 (1924).

stopped at the northeast corner of Table Rock, alt. 610 m. (2000 ft.), a limestone bluff standing out prominently on the slope and conspicuous when the trees are bare of foliage.

On May 21, 1932, with my Assistants, William B. Drew and Stuart K. Harris, and ten other students, some of whom will later make their marks in botany, I approached Table Rock from a different angle, from the southeast, merely to exhibit to the class the wonderful assemblage of local species there: as fine a display of *Clematis verticillaris* DC. as I know south of central Maine; *Asplenium cryptolepis* Fern., with *Arabis lyrata* L. and *A. hirsuta* (L.) Scop., in the crevices; carpets of *Juniperus horizontalis* Moench at the only inland locality for the species in New England and at its southern limit in eastern America; *Carex scirpoidea* Michx., an arctic-alpine species here reaching its southern limit in eastern America within a stone's throw of the most typical of Alleghanian plants (*Caulophyllum thalictroides, Asarum canadense, Senecio obovatus, Viola rostrata, Carex platyphylla, Orchis spectabilis, Mitella diphylla, Asclepias quadrifolia,* etc.); *Rosa acicularis,* var. *Bourgeauiana* Crépin, essentially at its southeastern limit; *Viola adunca* Sm., likewise close to its southeastern limit; and other species at least not common in New England. While the students were enthusiastically collecting these and other plants new to them, I was wholly devoted to *Carex Richardsonii,* abundant about the dry ledges and extending in the rotted debris down the slope; a fitting climax to an afternoon on a slope which, lower down, had already given us a new Vermont station for the local *Carex castanea* Wahlenb. and a well developed station of the rayless *Senecio obovatus,* forma *elongatus* (Pursh) Fern., the latter not previously recorded from Vermont.

On May 21 *Carex Richardsonii* was scarcely mature on Mt. Equinox. Therefore, desiring to put up 100 sheets of mature material for the *Plantae Exsiccatae Grayanae,* Harris and I returned to the station on June 4th. On the way, at Brattleboro and at Manchester, we constantly heard complaints of the "awful dry spring," with no appreciable rain in southern Vermont, but the young foliage, in general, had not suffered; in fact, it had grown exuberantly in two weeks. Incidentally, all the records emphasized the restriction of *C. Richardsonii* to "dry" habitats. Going to the dry but by no means parched Table Rock, we were dumbfounded to see neither *Carex scirpoidea* nor *C. Richardsonii,* though their associates of two weeks earlier had

all prospered. Search on hands-and-knees over practically every foot of the southeastern section of the bluff showed not a single shriveled culm or leaf of either sedge; in two weeks they had ripened, shriveled and been harvested by the dry winds.

Such behavior of *Carex scirpoidea*, which, on the White Mountains, on Katahdin and at lower altitudes from northern Maine northward, lasts until autumn, was quite baffling. But, in view of its close relationship to *Carex pedunculata* Muhl., the culms of which mature and disappear very early, this behavior of the rare and evasive *C. Richardsonii* may well account for its rarity; it may be shriveled and unrecognizable when most other Carices are in their prime. At least, its behavior another spring will be closely watched; and it is suggested that, if the "north side of the ridge" at Parma is visited by the middle of May, Bradley's long-lost station for *Carex Richardsonii* may be rediscovered.

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